

# Welding and Soldering Equipment Manufacturing: 2002

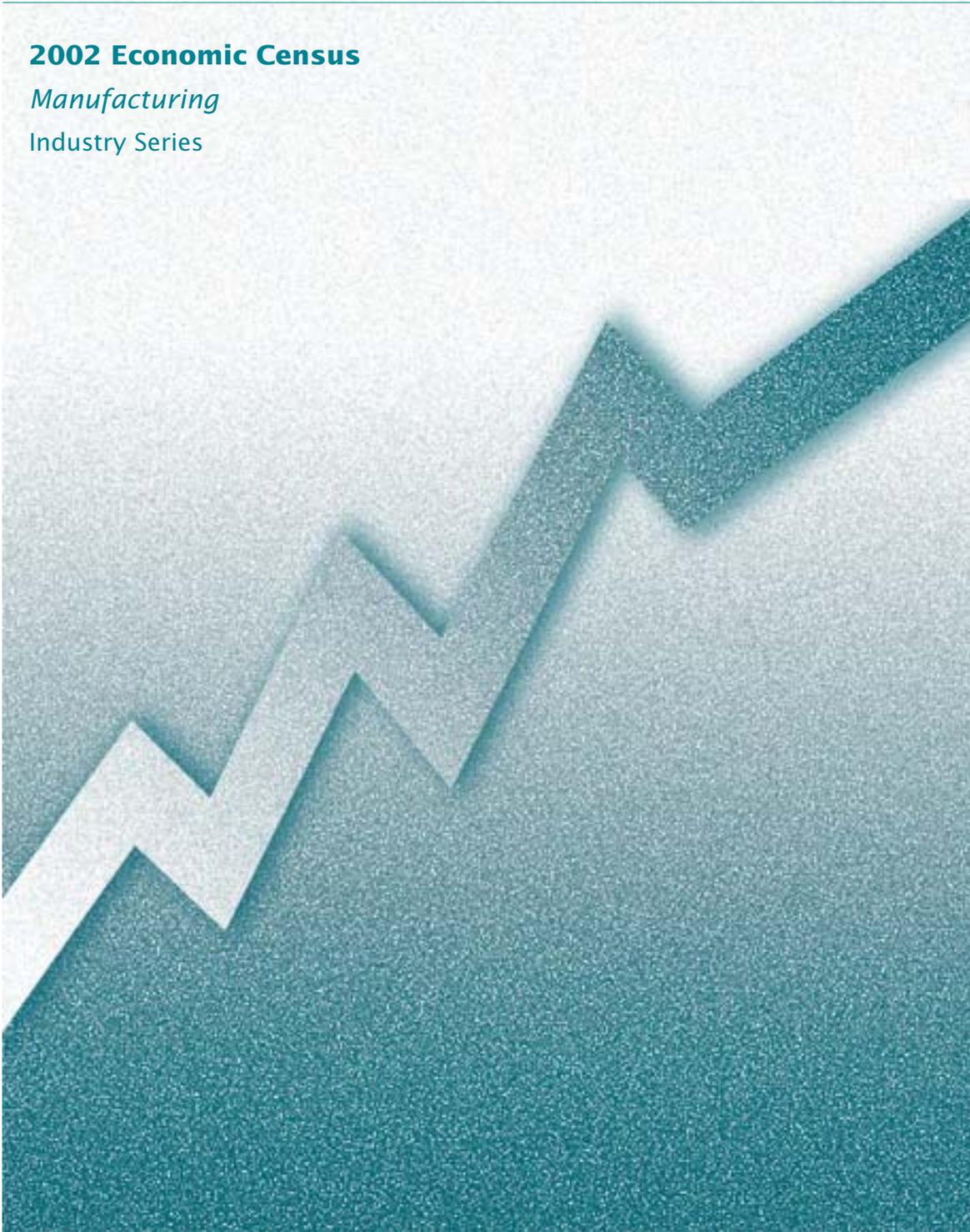
Issued September 2004

EC02-311-333992

## 2002 Economic Census

*Manufacturing*

Industry Series



USCENSUSBUREAU

*Helping You Make Informed Decisions*

U.S. Department of Commerce  
Economics and Statistics Administration  
U.S. CENSUS BUREAU



**Table 1. Historical Statistics for the Industry: 2002 and Earlier Years**

[Data based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Industry and year <sup>1</sup>	Com-panies <sup>2</sup>	All estab-lish-ments <sup>3</sup>	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)	
			Number <sup>4</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)					
333992, Welding and soldering equipment manufacturing .....	2002..	203	231	16 128	794 067	9 182	17 521	389 817	2 010 476	1 870 971	3 799 582	136 628
	2001..	N	N	18 338	776 016	10 976	21 472	402 476	1 668 566	2 146 515	3 895 540	98 464
	2000..	N	N	20 087	813 344	12 228	23 320	409 728	1 929 157	2 293 794	4 234 895	103 533
	1999..	N	N	18 488	758 202	11 387	21 561	363 654	1 890 072	2 259 392	4 192 199	69 527
	1998..	N	N	21 128	840 387	13 404	26 264	436 163	1 920 736	2 296 870	4 276 808	83 873
	1997..	218	250	22 505	918 180	14 640	29 279	485 833	2 027 004	2 453 362	4 444 978	122 871

<sup>1</sup>Statistics presented for years ending in 2 and 7 are census data. Interim census years are derived in a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures (ASM).

<sup>2</sup>For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

<sup>3</sup>Includes establishments with payroll at any time during the year.

<sup>4</sup>Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

**Table 2. Industry Statistics for Selected States: 2002**

[States that are a disclosure or with less than 100 employees are not shown. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E <sup>1</sup>	All establishments <sup>2</sup>		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>3</sup>	Hours (1,000)	Wages (\$1,000)				
<b>333992, Welding and soldering equipment manufacturing</b>												
United States .....	1	231	113	16 128	794 067	9 182	17 521	389 817	2 010 476	1 870 971	3 799 582	136 628
California .....	1	29	9	900	43 527	431	766	13 739	95 757	63 529	161 271	3 585
Connecticut .....	—	7	4	211	10 904	88	185	3 414	21 219	13 282	37 035	1 152
Florida .....	1	12	5	439	16 626	264	452	6 492	40 296	21 234	59 141	1 753
Georgia .....	1	4	1	175	7 710	96	185	3 210	18 955	23 536	42 004	637
Illinois .....	3	13	9	419	15 929	246	489	6 965	37 862	24 794	59 180	3 785
Indiana .....	2	6	2	143	6 560	91	179	3 147	13 492	9 454	22 689	1 173
Kentucky .....	2	4	4	198	7 435	127	231	3 868	22 719	23 032	45 613	1 261
Michigan .....	1	33	21	3 111	183 010	1 524	3 195	77 159	412 694	441 469	794 286	11 813
New Hampshire .....	—	5	4	891	40 361	448	949	15 024	103 224	74 347	175 689	3 461
Ohio .....	—	23	12	4 234	226 009	2 507	3 900	119 145	710 884	525 516	1 205 032	33 509
Pennsylvania .....	1	12	6	698	32 841	437	933	17 820	70 752	71 181	151 799	6 817
Texas .....	8	12	5	776	31 505	521	1 118	20 423	99 705	66 381	166 981	6 049
Wisconsin .....	—	13	5	1 490	74 546	919	1 942	53 671	127 706	266 599	393 717	4 129

<sup>1</sup>Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

<sup>2</sup>Includes establishments with payroll at any time during the year.

<sup>3</sup>Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

**Table 3. Detailed Statistics by Industry: 2002**

[Data based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Item	Value
<b>333992, Welding and soldering equipment manufacturing</b>	
Companies <sup>1</sup> .....	number.. 203
All establishments <sup>2</sup> .....	number.. 231
Establishments with 1 to 19 employees .....	number.. 118
Establishments with 20 to 99 employees .....	number.. 80
Establishments with 100 employees or more .....	number.. 33
All employees <sup>3</sup> .....	number.. 16 128
Total compensation .....	\$1,000.. 986 436
Annual payroll .....	\$1,000.. 794 067
Total fringe benefits .....	\$1,000.. 192 369
Production workers, average for year .....	number.. 9 182
Production workers on March 12 .....	number.. 9 309
Production workers on May 12 .....	number.. 9 216
Production workers on August 12 .....	number.. 9 146
Production workers on November 12 .....	number.. 9 046
Production worker hours .....	1,000.. 17 521
Production worker wages .....	\$1,000.. 389 817
Total cost of materials .....	\$1,000.. 1 870 971
Materials, parts, containers, packaging, etc., used .....	\$1,000.. 1 589 864
Resales .....	\$1,000.. 169 278
Purchased fuels .....	\$1,000.. 10 129
Purchased electricity .....	\$1,000.. 29 653
Contract work .....	\$1,000.. 72 047
Quantity of electricity purchased for heat and power .....	1,000 kWh.. 530 105
Quantity of electricity generated less sold for heat and power .....	1,000 kWh.. -
Total value of shipments .....	\$1,000.. 3 799 582
Primary products value of shipments .....	\$1,000.. 3 420 330
Secondary products value of shipments .....	\$1,000.. 141 742
Total miscellaneous receipts .....	\$1,000.. 237 510
Value of resales .....	\$1,000.. 217 790
Contract receipts .....	\$1,000.. 5 803
Other miscellaneous receipts .....	\$1,000.. 13 917
Primary products specialization ratio .....	percent.. 96
Value of primary products shipments made in all industries .....	\$1,000.. 3 524 593
Value of primary products shipments made in this industry .....	\$1,000.. 3 420 330
Value of primary products shipments made in other industries .....	\$1,000.. 104 263
Coverage ratio .....	percent.. 97
Value added .....	\$1,000.. 2 010 476
Total inventories, beginning of year .....	\$1,000.. 580 007
Finished goods inventories .....	\$1,000.. 232 017
Work-in-process inventories .....	\$1,000.. 184 154
Materials and supplies inventories .....	\$1,000.. 163 836
Total inventories, end of year .....	\$1,000.. 631 955
Finished goods inventories .....	\$1,000.. 208 563
Work-in-process inventories .....	\$1,000.. 289 473
Materials and supplies inventories .....	\$1,000.. 133 919
Gross value of depreciable assets (acquisition costs) at beginning of year .....	\$1,000.. 1 356 717
Total capital expenditures (new and used) .....	\$1,000.. 136 628
Buildings and other structures (new and used) .....	\$1,000.. 17 939
Machinery and equipment (new and used) .....	\$1,000.. 118 689
Automobiles, trucks, etc., for highway use .....	\$1,000.. 8 927
Computers and peripheral data processing equipment .....	\$1,000.. 7 552
All other expenditures for machinery and equipment .....	\$1,000.. 102 210
Total retirements .....	\$1,000.. 89 786
Gross value of depreciable assets at end of year .....	\$1,000.. 1 403 559
Depreciation charges during year .....	\$1,000.. 91 257
Total rental payments .....	\$1,000.. 49 906
Buildings and other structures .....	\$1,000.. 38 223
Machinery and equipment .....	\$1,000.. 11 683
Total other expenses <sup>4</sup> .....	\$1,000.. 252 528
Response coverage ratio <sup>5</sup> .....	percent.. 86
Repair and maintenance services of buildings and/or machinery <sup>4</sup> .....	\$1,000.. 19 047
Communications services <sup>4</sup> .....	\$1,000.. 9 735
Legal services <sup>4</sup> .....	\$1,000.. 15 321
Accounting, auditing, and bookkeeping services <sup>4</sup> .....	\$1,000.. 4 071
Advertising and promotional services <sup>4</sup> .....	\$1,000.. 16 226
Expensed computer hardware and supplies and purchased computer services <sup>4</sup> .....	\$1,000.. 7 489
Refuse removal (including hazardous waste) services <sup>4</sup> .....	\$1,000.. 3 596
Management consulting and administrative services <sup>4</sup> .....	\$1,000.. 6 394
Taxes and license fees <sup>4</sup> .....	\$1,000.. 8 456
All other expenses <sup>4</sup> .....	\$1,000.. 162 194

<sup>1</sup>For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

<sup>2</sup>Includes establishments with payroll at any time during the year.

<sup>3</sup>Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

<sup>4</sup>Based on Annual Survey of Manufactures (ASM) sample data.

<sup>5</sup>A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those Annual Survey of Manufactures (ASM) establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note 1: The amounts shown for other expenses reflect only those services that establishments purchase from other companies.

Note 2: The data in this table are based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

**Table 4. Industry Statistics by Employment Size: 2002**

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Employment size class	E <sup>1</sup>	All establishments <sup>2</sup>	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>3</sup>	Hours (1,000)	Wages (\$1,000)				
<b>333992, Welding and soldering equipment manufacturing</b>											
All establishments .....	1	231	16 128	794 067	9 182	17 521	389 817	2 010 476	1 870 971	3 799 582	136 628
Establishments with—											
1 to 4 employees .....	8	55	116	4 337	72	120	2 062	8 119	9 389	17 652	610
5 to 9 employees .....	7	25	168	6 476	102	187	3 058	14 432	13 277	27 778	1 108
10 to 19 employees .....	5	38	533	22 054	322	640	10 091	57 638	56 282	114 784	4 485
20 to 49 employees .....	4	51	1 614	64 401	940	1 874	29 191	142 215	137 719	284 150	11 308
50 to 99 employees .....	1	29	2 057	86 257	1 196	2 473	39 113	191 004	173 660	367 931	11 036
100 to 249 employees .....	1	22	3 551	161 315	2 121	4 071	81 640	394 402	291 143	682 480	13 150
250 to 499 employees .....	2	7	h	D	D	D	D	D	D	D	D
500 to 999 employees .....	—	1	f	D	D	D	D	D	D	D	D
1,000 to 2,499 employees .....	—	3	4 821	289 213	2 366	3 810	134 204	804 331	722 597	1 465 048	27 724
2,500 employees or more .....	—	—	—	—	—	—	—	—	—	—	—
Administrative records <sup>4</sup> .....	9	82	574	22 716	347	713	10 616	47 666	59 823	106 219	3 962

<sup>1</sup>Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data account for 10 percent or more of the figures shown: 1—10 to 19 percent; 2—20 to 29 percent; 3—30 to 39 percent; 4—40 to 49 percent; 5—50 to 59 percent; 6—60 to 69 percent; 7—70 to 79 percent; 8—80 to 89 percent; 9—90 percent or more.

<sup>2</sup>Includes establishments with payroll at any time during the year.

<sup>3</sup>Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

<sup>4</sup>Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

**Table 5. Industry Statistics by Primary Product Class Specialization: 2002**

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Industry or product class code	Industry or primary product class	All establishments <sup>1</sup>	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number <sup>2</sup>	Payroll (\$1,000)	Number <sup>2</sup>	Hours (1,000)	Wages (\$1,000)				
333992	Welding and soldering equipment manufacturing .....	231	16 128	794 067	9 182	17 521	389 817	2 010 476	1 870 971	3 799 582	136 628
3339921	Arc welding machines, components, and accessories (except electrodes), except stud welding equipment .....	65	4 414	214 293	2 744	5 546	130 281	451 104	671 438	1 086 384	19 762
3339923	Arc welding electrodes, metal .....	22	3 684	188 336	2 130	3 116	93 893	632 854	324 239	963 170	31 108
3339927	Resistance welders, components, accessories, and electrodes .....	40	3 450	198 900	1 582	3 231	73 219	418 846	487 992	849 468	17 150
3339929	Gas welding and cutting equipment, parts, attachments, and accessories .....	18	1 397	52 713	951	2 062	30 493	178 158	141 320	319 374	8 558
333992A	Other welding equipment, components, and accessories (except arc, resistance, and gas welding equipment) .....	42	2 974	131 219	1 650	3 350	57 797	317 523	233 951	557 176	59 284

<sup>1</sup>Includes establishments with payroll at any time during the year.

<sup>2</sup>Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

**Table 6a. Products Statistics: 2002 and 1997**

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)
333992	Welding and soldering equipment manufacturing .....	2002.. N 1997.. N	X X	X X	3 524 593 4 127 329
3339921	Arc welding machines, components, and accessories (except electrodes), except stud welding equipment .....	2002.. N 1997.. N	X X	X X	1 261 711 1 418 821
33399211	Arc welding apparatus and related equipment .....	2002.. N 1997.. N	X X	X X	1 261 711 1 273 655
3339921101	Direct current arc welding generators, except stud welding equipment .....	2002.. 6 1997.. 3	X X	S S	107 202 153 674
3339921106	Rectifier-type direct current arc welders (except stud welders), fully or partly automatic .....	2002.. 8 1997.. 7	X X	S 88.0	323 867 265 603
3339921111	Rectifier-type direct current arc welders (except stud welders), not fully or partly automatic .....	2002.. 3 1997.. 4	X X	D D	D D
3339921126	Automatic and semiautomatic wire drive apparatus and related accessories for arc welding machines (except electrodes and stud welding equipment) .....	2002.. 13 1997.. 6	X X	X X	158 645 118 410
3339921131	Special-purpose automatic arc welding apparatus (except electrodes and stud welding equipment) .....	2002.. 24 1997.. 10	X X	X X	84 903 45 342
3339921136	Automatic and semiautomatic welding torches, guns and cables, and related accessories for arc welding machines (except electrodes and stud welding equipment) .....	2002.. 19 1997.. 11	X X	X X	104 363 124 030
3339921141	Circuit welding accessories (including electrode holders, ground clamps, cable connectors, cables sold separately, etc.) (except electrodes and stud welding equipment) .....	2002.. 8 1997.. 5	X X	X X	47 430 D
3339921146	Positioning and manipulating arc welding equipment (including turn rolls, head and tail stock, weld head manipulators, seamers, etc.) (except electrodes and stud welding equipment) .....	2002.. 14 1997.. 10	X X	X X	98 941 111 576
3339921151	Alternating current transformer arc welding machines (except stud welding equipment) .....	2002.. 3 1997.. 8	X X	D S	D 83 307
3339921156	Complete direct current arc welding units (except stud welding equipment) .....	2002.. 12 1997.. 6	X X	S D	226 225 D
3339921161	All other components and accessories for arc welding machinery (except welding rods, electrodes, and stud welding equipment) .....	2002.. 19 1997.. 17	X X	X X	72 279 109 876
3339921Y	Arc welding machines, components, and accessories (except electrodes), except stud welding equipment, nsk .....	2002.. N 1997.. N	X X	X X	- 145 166
3339921YWV	Arc welding machines, components, and accessories (except electrodes), except stud welding equipment, nsk .....	2002.. N 1997.. N	X X	X X	- 145 166
3339923	Arc welding electrodes, metal .....	2002.. N 1997.. N	X X	X X	682 211 1 204 369
33399231	Electrodes for welding .....	2002.. N 1997.. N	X X	X X	673 317 1 188 515
3339923101	Mild steel arc welding stick electrodes (including solid, cored, covered, and bare electrodes), except hard facing .....	2002.. 8 1997.. 6	X X	D D	D D
3339923106	Low alloy steel arc welding stick electrodes (including solid, cored, covered, and bare electrodes), except hard facing .....	2002.. 6 1997.. 5	X X	D S	D 90 538
3339923111	Stainless steel (chromium, 4 percent or more) low alloy steel arc welding stick electrodes (including solid, cored, covered, and bare electrodes), except hard facing .....	2002.. 4 1997.. 5	X X	D 10.3	D 48 474
3339923116	Nonferrous metal arc welding stick electrodes (including solid, cored, covered, and bare electrodes), except hard facing .....	2002.. 4 1997.. 6	X X	S S	11 538 29 268
3339923121	Hard facing metal arc welding stick electrodes (including solid, cored, covered, and bare electrodes) .....	2002.. 10 1997.. 7	X X	S P4.9	16 422 29 405
3339923126	Mild steel coiled and spooled continuous solid wire electrodes for automatic arc and inert gas welding, except hard facing .....	2002.. 6 1997.. 4	X X	D S	D 101 123
3339923131	Low alloy steel coiled and spooled continuous solid wire electrodes for automatic arc and inert gas welding, except hard facing .....	2002.. 5 1997.. 2	X X	D D	D D
3339923136	Stainless steel (chromium, 4 percent or more) coiled and spooled continuous solid wire electrodes for automatic arc and inert gas welding, except hard facing .....	2002.. 9 1997.. 5	X X	S S	20 443 68 438
3339923141	Nonferrous metal coiled and spooled continuous solid wire electrodes for automatic arc and inert gas welding, except hard facing .....	2002.. 7 1997.. 4	X X	S 8.2	34 109 31 164
3339923146	Hard facing coiled and spooled continuous metal wire electrodes for automatic arc and inert gas welding .....	2002.. 5 1997.. 3	X X	19.3 P9.6	31 992 37 478
3339923151	Coiled and spooled continuous cored metal wire electrodes for automatic arc and inert gas welding, except hard facing .....	2002.. 10 1997.. 7	X X	S D	47 600 D
3339923Y	Arc welding electrodes, metal, nsk .....	2002.. N 1997.. N	X X	X X	8 894 15 854
3339923YWV	Arc welding electrodes, metal, nsk .....	2002.. N 1997.. N	X X	X X	8 894 15 854

See footnotes at end of table.

**Table 6a. Products Statistics: 2002 and 1997—Con.**

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)
333992	Welding and soldering equipment manufacturing—Con.				
3339927	Resistance welders, components, accessories, and electrodes	2002.. N	X	X	565 879
		1997.. N	X	X	428 290
33399271	Resistance welders, components, accessories, and electrodes	2002.. N	X	X	565 173
		1997.. N	X	X	399 467
3339927101	Spot and projection resistance welders, single electrode	2002.. 12	X	S	107 147
		1997.. 19	X	S	85 237
3339927106	Spot and projection resistance welders, multielectrode	2002.. 16	X	S	65 689
		1997.. 20	X	S	165 050
3339927111	Seam resistance welders	2002.. 5	X	D	D
		1997.. 6	X	S	12 357
3339927116	Other resistance welders, including flash, upset, and butt welders	2002.. 8	X	X	13 174
		1997.. 13	X	X	30 329
3339927121	Resistance welder transformers (sold separately)	2002.. 6	X	D	D
		1997.. 9	X	S	13 248
3339927126	Resistance welder electrodes	2002.. 13	X	S	103 821
		1997.. 10	X	S	18 081
3339927131	Resistance welder components and accessories, including electrode holders, etc.	2002.. 22	X	X	68 099
		1997.. 19	X	X	75 165
3339927Y	Resistance welders, components, accessories, and electrodes, nsk	2002.. N	X	X	706
		1997.. N	X	X	28 823
3339927YVV	Resistance welders, components, accessories, and electrodes, nsk	2002.. N	X	X	706
		1997.. N	X	X	28 823
3339929	Gas welding and cutting equipment, parts, attachments, and accessories	2002.. N	X	X	311 647
		1997.. N	X	X	330 193
33399291	Gas welding and cutting equipment, parts, attachments, and accessories	2002.. N	X	X	311 483
		1997.. N	X	X	315 531
3339929101	Gas welding and cutting torches (including gas air torches)	2002.. 11	X	S	84 053
		1997.. 13	X	S	41 479
3339929106	Gas cutting machines and carriages, stationary and portable	2002.. 5	X	S	13 711
		1997.. 7	X	S	43 384
3339929111	Other gas welding and cutting equipment, excluding pressure containers	2002.. 5	X	X	D
		1997.. 11	X	X	71 155
3339929116	Tips for gas welding and cutting equipment (sold separately)	2002.. 13	X	X	D
		1997.. 12	X	X	48 943
3339929121	Pressure regulators for gas welding and cutting equipment (sold separately)	2002.. 8	X	S	43 923
		1997.. 9	X	S	48 328
3339929126	All other spare parts, accessories, attachments, adaptors, etc., for gas welding and cutting equipment (sold separately)	2002.. 13	X	X	75 339
		1997.. 15	X	X	62 242
3339929Y	Gas welding and cutting equipment, parts, attachments, and accessories, nsk	2002.. N	X	X	164
		1997.. N	X	X	14 662
3339929YVV	Gas welding and cutting equipment, parts, attachments, and accessories, nsk	2002.. N	X	X	164
		1997.. N	X	X	14 662
333992A	Other welding equipment, components, and accessories (except arc, resistance, and gas welding equipment)	2002.. N	X	X	601 846
		1997.. N	X	X	512 679
333992A1	Other welding equipment, components, and accessories (except arc, resistance, and gas welding equipment)	2002.. N	X	X	594 665
		1997.. N	X	X	466 876
333992A101	Stud welding equipment (except arc, resistance, and gas welding equipment)	2002.. 8	X	S	41 238
		1997.. 6	X	S	54 053
333992A116	Industrial welding laser systems and equipment	2002.. 8	X	S	33 473
		1997.. 10	X	S	D
333992A121	Plasma welding and cutting equipment, fully or partly automatic	2002.. 12	X	S	190 550
		1997.. 12	X	S	157 585
333992A126	Plasma welding and cutting equipment, except fully or partly automatic	2002.. 8	X	S	153 942
		1997.. 4	X	S	837.0 81 869
333992A132	All other miscellaneous welding equipment (including friction)	2002.. 18	X	S	89 395
		1997.. N	X	N	N
333992A141	Soldering equipment (except hand and ultrasonic)	2002.. 10	X	S	10 525
		1997.. 4	X	D	D
333992A146	Components and accessories for all other welding equipment (except arc, resistance, and gas welding equipment)	2002.. 15	X	X	75 542
		1997.. 20	X	X	65 941
333992AY	Other welding equipment, components, and accessories (except arc, resistance, and gas welding equipment), nsk	2002.. N	X	X	7 181
		1997.. N	X	X	45 803
333992AYVV	Other welding equipment, components, and accessories (except arc, resistance, and gas welding equipment), nsk	2002.. N	X	X	7 181
		1997.. N	X	X	45 803
333992W	Welding and soldering equipment manufacturing, nsk, total	2002.. N	X	X	101 299
		1997.. N	X	X	232 977
333992WY	Welding and soldering equipment manufacturing, nsk, total	2002.. N	X	X	101 299
		1997.. N	X	X	232 977
333992WYVV	Welding and soldering equipment manufacturing, nsk, for nonadministrative-record establishments	2002.. N	X	X	91 824
		1997.. N	X	X	169 519
333992WYVY	Welding and soldering equipment manufacturing, nsk, administrative-record establishments	2002.. N	X	X	9 475

See footnotes at end of table.

**Table 6a. Products Statistics: 2002 and 1997—Con.**

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		
				Quantity	Value (\$1,000)	
333992 333992W 333992WY 333992WYWY	Welding and soldering equipment manufacturing—Con. Welding and soldering equipment manufacturing, nsk, total—Con. Welding and soldering equipment manufacturing, nsk, total—Con. Welding and soldering equipment manufacturing, nsk, administrative-record establishments—Con.	1997 . .	N	X	X	63 458

Note 1: For some establishments, data have been estimated from central unit values that are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: p—10 to 19 percent estimated; q—20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Note 2: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

**Table 6b. Product Class Shipments for Selected States: 2002 and 1997**

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 2002. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographic definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)
3339921	Arc welding machines, components, and accessories (except electrodes), except stud welding equipment	
	United States .....	2002.. 1 261 711
	United States .....	1997.. 1 418 821
	California .....	2002.. 62 468
	California .....	1997.. 78 372
	Connecticut .....	2002.. 15 475
	Connecticut .....	1997.. N
	Florida .....	2002.. 31 179
	Florida .....	1997.. N
	Michigan .....	2002.. 91 976
	Michigan .....	1997.. N
3339923	Arc welding electrodes, metal	
	United States .....	2002.. 682 211
	United States .....	1997.. 1 204 369
	California .....	2002.. 6 701
	California .....	1997.. N
3339927	Resistance welders, components, accessories, and electrodes	
	United States .....	2002.. 565 879
	United States .....	1997.. 428 290
	California .....	2002.. 26 723
	California .....	1997.. 24 014
3339929	Gas welding and cutting equipment, parts, attachments, and accessories	
	United States .....	2002.. 311 647
	United States .....	1997.. 330 193
	California .....	2002.. 8 018
	California .....	1997.. 6 292
333992A	Other welding equipment, components, and accessories (except arc, resistance, and gas welding equipment)	
	United States .....	2002.. 601 846
	United States .....	1997.. 512 679
	California .....	2002.. 42 590
	California .....	1997.. 43 405
	Connecticut .....	2002.. 12 388
	Connecticut .....	1997.. N
	Illinois .....	2002.. 8 716
	Illinois .....	1997.. N
	Indiana .....	2002.. 12 106
	Indiana .....	1997.. N
Michigan .....	2002.. 175 167	
Michigan .....	1997.. 33 338	
Ohio .....	2002.. 34 042	
Ohio .....	1997.. 86 374	

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

**Table 7. Materials Consumed by Kind: 2002 and 1997**

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Material code	Material consumed	Quantity	Delivered cost (\$1,000)
333992	Welding and soldering equipment manufacturing		
00900001	Total materials .....	X	1 589 864
	.....2002..	X	2 136 077
	.....1997..	X	21 148
33272203	Metal bolts, nuts, screws, washers, rivets, and other screw machine products .....	X	55 584
	.....2002..	X	23 108
	.....1997..	X	108 491
33200095	Other fabricated metal products (excluding castings and forgings) .....	X	7 371
	.....2002..	X	N
	.....1997..	X	D
33210000	Forgings .....	X	80 460
33151001	Iron and steel castings (rough and semifinished) .....	X	4 689
	.....2002..	X	38 589
	.....1997..	X	
33152500	Copper and copper-base alloy castings (rough and semifinished) .....	X	10 555
	.....2002..	X	N
	.....1997..	X	N
33152014	Other nonferrous metal castings, rough and semifinished (excluding copper and copper-base alloy) .....	X	48 136
33120007	Steel bars, bar shapes, and plate (excluding castings, forgings, and fabricated metal products) .....	X	49 329
	.....2002..	X	73 453
	.....1997..	X	N
33120016	Steel sheet and strip (including tinplate) .....	X	62 758
	.....2002..	X	257 940
	.....1997..	X	
33120025	Steel wire and wire products .....	X	D
33120015	All other steel shapes and forms (excluding castings, forgings, fabricated metal products, bars, bar shapes, plate, sheet, strip, wire and wire products) .....	X	102 657
	.....2002..	X	
	.....1997..	X	
33142111	Copper and copper-base alloy shapes and forms (excluding castings, forgings, and fabricated metal products) .....	X	60 646
	.....2002..	X	118 568
	.....1997..	X	
33100038	Aluminum and aluminum-base alloy shapes and forms (excluding castings, forgings, and fabricated metal products) .....	X	41 847
	.....2002..	X	N
	.....1997..	X	
33100082	Other nonferrous metal shapes and forms (excluding aluminum and aluminum-base alloy and copper and copper-base alloy castings, forgings, and fabricated metal products) .....	X	12 040
	.....2002..	X	N
	.....1997..	X	N
331000A3	Insulated copper wire and cable (excluding magnet wire) .....	X	7 548
	.....2002..	X	29 839
	.....1997..	X	
33531209	Fractional horsepower electric timing motors, synchronous and subsynchronous (less than 1 hp) .....	X	9 550
	.....2002..	X	18 765
	.....1997..	X	6 131
33531223	Fractional horsepower electric motors (less than 1 hp), excluding timing motors .....	X	5 307
	.....2002..	X	D
	.....1997..	X	84 826
33531221	Integral horsepower electric motors and generators (1 hp or more) .....	X	
	.....2002..	X	
	.....1997..	X	
001900B1	Electrical transmission, distribution, and control equipment .....	X	57 057
	.....2002..	X	118 926
	.....1997..	X	
33500007	Electrical industrial capacitors, resistors, rheostats, and coil windings .....	X	42 250
	.....2002..	X	81 929
	.....1997..	X	2 911
33451300	Pressure gauges .....	X	25 684
	.....2002..	X	
	.....1997..	X	
33299105	Ball bearings (mounted or unmounted) .....	X	2 000
	.....2002..	X	8 486
	.....1997..	X	
33299103	Roller bearings (mounted or unmounted) .....	X	1 089
	.....2002..	X	3 110
	.....1997..	X	
32221001	Paperboard containers, boxes, and corrugated paperboard .....	X	36 378
	.....2002..	X	58 889
	.....1997..	X	
33399903	Industrial robots purchased for fabrication with welding equipment .....	X	47 645
	.....2002..	X	35 403
	.....1997..	X	
00970099	All other materials and components, parts, containers, and supplies .....	X	882 716
	.....2002..	X	600 815
	.....1997..	X	
00971000	Materials, ingredients, containers, and supplies, nsk .....	X	20 545
	.....2002..	X	252 480
	.....1997..	X	

Note 1: For some establishments, data have been estimated from central unit values that are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: p-10 to 19 percent estimated; q-20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Note 2: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.